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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/464,497	12/15/1999	MICHAEL A'HEARN	99-120-4	7647

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PATENT DEPARTMENT
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EXAMINER	
LOPEZ, FRANK D	
ART UNIT	**PAPER NUMBER**
3745	

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/464,497	A'HEARN ET AL.	
	Examiner	Art Unit	
	F. Daniel Lopez	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *May 24, 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-8* is/are rejected.

7)☒ Claim(s) *2,3 and 9-16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

Applicant's arguments filed May 24, 2004, have been fully considered but they are not deemed to be persuasive.

Applicant argues that Imada fails to teach eliminating the "second" position of the directional control valve, and if it had been the desire of Imada, then the second position of the control valve would have been redesigned to accomplish the function of speedup valve 10. Applicant is correct in what Imada teaches by itself. But in comparison with Budzich, it is clear that the combination teaches eliminating the "second" position.

Imada teaches a three position valve assembly for a double acting cylinder, wherein the three positions include a center position, where head and rod end ports are disconnected from each other; a first position, where the supply and exhaust ports are connected to the rod end and head ports, respectively; and a second position, where the supply port is connected to the head and rod end ports, and the exhaust port is blocked.

Budzich discloses a four position valve assembly for a double acting cylinder, wherein the three positions include a center position, where a supply port, an exhaust port, and head and rod end ports are blocked; a first position, where the supply and exhaust ports are connected to the rod end and head ports, respectively; a second position, where the supply port is connected to the head and rod end ports, and the exhaust port is blocked; and a third position (considered the "second" position in applicant's argument), where the supply and exhaust ports are connected to the head and rod end port respectively.

A comparison of Imada with Budzich shows that Imada does not have or need the third position (considered the "second" position in applicant's argument) of Budzich, where the supply port is connected to the head port, and the rod end port is connected to the exhaust port. Therefore, the comparison teaches to one of ordinary skill in this art eliminating the third position of the valve of Budzich, along with its function.

Applicant argues that "fluid flow from the rod end port must be directed back across the directional control valve in order to be in full communication with the supply input port. If this is so, then the specification does not support this limitation, since the connection between the first and second ports (92, 94) is shown as internal to the valve spool. There would be no way for the fluid from the rod end to make it back to the supply port, since fluid is flowing from the supply port to the head end, with fluid from the rod end flowing also to the head end. A broader interpretation is used for this limitation, that being that there is a passage that connects the rod end and the supply passage. This limitation would be supported by the specification; and would be met by either Imada or Budzich.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claim 1 is rejected under 35 U.S.C. § 103 as being unpatentable over Budzich in view of Imada. Budzich discloses a fluid system with a single source (10) of pressurized supply fluid that receives fluid from a reservoir (16), comprising first and second fluid circuits connected to the single source, having respecting first (e.g. 12) and second (e.g. 13) four position directional control valves connected to respective first and second cylinders having head end and rod end ports; wherein each directional control valve includes supply inlet, exhaust and first and second outlet ports connected respectively to the supply source, reservoir, and head end and rod end ports of the respective cylinder; with each directional control valve movable from a central position to first, second and third operating positions, with the supply inlet, exhaust and first and second outlet ports blocked in the central position, and with the supply inlet and exhaust ports communicating with the second and first outlet ports, respectively, in the first operable position; wherein when the first directional control valve is in the second operable position, the supply inlet port fully communicates with the first outlet port, and the second outlet port fully communicates with the supply inlet port; and wherein when the

first directional control valve is in the third operable position (this is called third position for identification purpose only), which is between the second operable position and the central position, the supply inlet and exhaust ports communicates with the first and second outlet ports, respectively; but does not disclose that the first and second outlet ports of the first directional control valve are in communication when the first directional control valve is moved from the central position towards the second position.

Imada teaches, for a fluid system comprising first and second fluid circuits connected to the single source, having respecting first and second three position directional control valves (controlled by 5, 5') connected to respective first (C) and second (part of B) cylinders having head end and rod end ports; wherein each directional control valve units (V, D_1) includes supply inlet, exhaust and first and second outlet ports connected respectively to the supply source, reservoir, and head end and rod end ports of the respective cylinder (e.g. fig 3); with each directional control valve movable from a central position to first and second operating positions, with the first and second outlet ports blocked in the central position, and with the supply inlet and exhaust ports communicating , through the valve unit, with the second and first outlet ports, respectively, in the first operable position (v_2,d_2); and wherein when the first directional control valve is in the second operable position, the supply inlet port fully communicates with the first port, and the second port fully communicates with the supply inlet port; that the head end and rod end ports of the first directional control valve are in communication when the first directional control valve is moved from the central position towards the second position.

A comparison of Budzich and Imada follows. The directional control valve of Budzich has four positions: a central position where the outlet ports are blocked, a first position where the second and first ports are connected to the supply and exhaust ports, respectively, a third position where the first and second ports are connected to the supply and exhaust ports, respectively, and a second position where the first and second ports are connected to the supply port and exhaust port is blocked. The directional control valve of Imada has three positions: a central position where the outlet ports are blocked, a first position where the second and first ports are connected to the

supply and exhaust ports, respectively, and a second position where the first and second ports are connected to the supply port and exhaust port is blocked. Clearly, the directional control valve of Imada has three of the four positions, and three of the corresponding functions, of the directional control valve of Budzich, effectively eliminating the position of Budzich, called the third position, and its function.

Since a comparison of Budzich and Imada shows that Imada teaches the third position of the first directional control valve of Budzich can be eliminated, along with its corresponding function; it would have been obvious at the time the invention was made to one having ordinary skill in the art to eliminate the third position of the first directional control valve of Budzich, along with its function, as taught by Imada, as a matter of engineering expediency. By eliminating the third position of the first directional control valve of Budzich, the head end and rod end ports of the first directional control valve are in communication, when the first directional control valve is moved from the central position towards the second position; and the directional control valve will be a three position valve.

Claims 4-8 are rejected under 35 U.S.C. § 103 as being unpatentable over Budzich in view of Imada, as applied to claim 1 above, and further in view of Johnson. The modified Budzich discloses all of the elements of claims 4-8, as discussed above, but does not disclose first and second vented load check valves disposed between first and second outlet ports, respectively, of the first directional control valve, and head end and rod end ports, respectively, of the first fluid cylinder; a pilot control system having a control input arrangement connected to a source of pressurized pilot fluid, with first and second directional control valves being movable from their center positions by pilot fluid directed through first, second, third and fourth pilot conduits; with first and second vented load check valves each having pressure chambers in communication with head end or rod end ports, respectively, through orifice conduits, and the pilot control system includes respective first and second two position valves, positioned between the respective pressure chamber and the reservoir, spring biased to a closed position and movable in response to pilot fluid directed to respective first and second ends of the first

directional control valve; with a third and fourth vented load check valves disposed between first and second outlet ports, respectively, of the second directional control valve, and head end and rod end ports, respectively, of the second fluid cylinder; with third and fourth vented load check valves each having pressure chambers in communication with head end or rod end ports, respectively, through orifice conduits, and the pilot control system includes respective third and fourth two position valves, positioned between the respective pressure chamber and the reservoir, spring biased to a closed position and movable in response to pilot fluid directed to respective first and second ends of the second directional control valve.

Johnson teaches, for a fluid circuit having a directional control valve which includes supply inlet, exhaust and first and second outlet ports connected respectively to a supply source, reservoir, and head end and rod end ports of a cylinder; and movable from a central position to first and second operating positions, that there are first and second vented load check valves (20) disposed between first and second outlet ports, respectively, of the first directional control valve, and head end and rod end ports, respectively, of the first fluid cylinder; a pilot control system having a control input arrangement (22) connected to a source of pressurized pilot fluid, with the directional control valve being movable from its center position by pilot fluid directed through first and second pilot conduits (24, 26); with first and second vented load check valves each having pressure chambers (74) in communication with head end or rod end ports, respectively, through orifice conduits (82), and the pilot control system includes respective first and second two position valves (90), positioned between the respective pressure chamber and the reservoir, spring biased to a closed position and movable in response to pilot fluid directed to respective first and second ends of the first directional control valve, for the purpose of preventing creep of the cylinder.

Since Budzich and Johnson are both from the same field of endeavor, the purpose disclosed by Johnson would have been recognized in the pertinent art of Budzich. It would have been obvious at the time the invention was made to one having ordinary skill in the art to add first and second vented load check valves disposed between first and second outlet ports, respectively, of the first directional control valve of

the modified Budzich, and head end and rod end ports, respectively, of the first fluid cylinder; a pilot control system having a control input arrangement connected to a source of pressurized pilot fluid, with first and second directional control valves being movable from their center positions by pilot fluid directed through first, second, third and fourth pilot conduits; with first and second vented load check valves each having pressure chambers in communication with head end or rod end ports, respectively, through orifice conduits, and the pilot control system includes respective first and second two position valves, positioned between the respective pressure chamber and the reservoir, spring biased to a closed position and movable in response to pilot fluid directed to respective first and second ends of the first directional control valve; and add third and fourth vented load check valves disposed between first and second outlet ports, respectively, of the second directional control valve of the modified Budzich, and head end and rod end ports, respectively, of the second fluid cylinder; with third and fourth vented load check valves each having pressure chambers in communication with head end or rod end ports, respectively, through orifice conduits, and the pilot control system includes respective third and fourth two position valves, positioned between the respective pressure chamber and the reservoir, spring biased to a closed position and movable in response to pilot fluid directed to respective first and second ends of the second directional control valve, as taught by Johnson, for the purpose of preventing creep of the first and second cylinders.

Conclusion

Claims 2, 3 and 9-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (703) 308-0008. The examiner can normally be reached on Monday-Thursday from 6:30 AM -4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on (703) 308-1044. The fax number for this group is (703) 872-9302. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.

F. Daniel Lopez
Primary Examiner
Art Unit 3745
September 3, 2004